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ABSTRACT

The teaching materials listed in this annotated bibliography emphasize an observational and hands-on approach to awakening student interest in the world of biology. The sources that are for teachers and students, can be used to create lessons, prepare units, or develop concepts to stimulate learning. Books on science fairs and projects are included, as well as a list of organizations (with phone numbers and addresses) that can supply additional information and materials. Resources are organized under the following headings: (1) Introductions and History of Biology, (2) Biology Activities, and (3) Specialized Works, that include the subheadings Botany; Ecology; Genetics; Human Body; Paleontology/Evolution; Zoology; Science Activities; Science Events, Fairs, and Projects; Teaching Aids and Sourcebooks; Periodicals; and Multimedia Resources. (PR)

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SELECTED TEACHING AIDS: BIOLOGY FOR SCHOOLS

Alana J. Wilson

The teaching materials listed in this bibliography emphasize an observational and "hands-on" approach to awakening students' interest in the world of biology. The sources, which are for teachers and students, can be used to create lessons, units, or concepts to stimulate learning. Books on science fairs and projects are included, as well as a list of organizations which can supply additional information and materials.

Introductions and History of Biology

Biology in profile: a guide to the many branches of biology. Edited by P. N. Campbell. Oxford, New York, Pergamon Press, 1981. 128 p. QH307.2.B57 1981

"Sponsored by the Committee on the Teaching of Science of the International Council of Scientific Unions."

Brief profiles of 20 biological disciplines which give background information, present activities and future prospects. Written for high school graduates with a career in biology in mind.

Borell, Merriley. The biological sciences in the twentieth century. New York, Scribner, c1989. 306 p. QH305.B67 1988

A visual tour of the panoramic development of the life sciences.

Coleman, William. Biology in the nineteenth century: problems of form, function, and transformation. New York, Wiley, 1971. 187 p. QH305.C54

Discusses themes and issues in 19th-century biology. Complete with illustrations, facsimiles, and a detailed bibliography.

Magner, Lois N. A history of the life sciences. New York, M. Dekker, c1979. 489 p. QH305.M22

"... an introduction to a vast, complicated, and fascinating story ... this book emphasizes major questions, obstructions and events which seem to have acted as the *hinges of history*."

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National Research Council (U.S.). *Committee on High-School Biology*. Fulfilling the promise: biology education in the nation's schools. Washington, National Academy Press, 1990. 152 p. QH319.A1N38 1990

Discusses the issues of exposure to science in schools, modes of instruction, testing, preparation of teachers, demographics, and biology curricula. An in-depth look at science education with informed recommendations for solutions to the problems of biology education.

Smith, Lloyd Mason, *and* Bonita L. Roohk. Introducing biology. 2nd ed., abridged version. Dubuque, Iowa, Kendall/Hunt Pub. Co., 1988. 754 p. QH308.2.S64 1988b

A basic introductory text of biology (community college and high-school levels) with suggested readings and summaries at the end of each chapter. Includes a section on origami biology.

Biology Activities

Bellamy, Mary Louise. Biology discovery activities kit: lessons, labs, and worksheets for secondary students. West Nyack, N.Y., Center for Applied Research in Education, c1991. 231 p. QH316.4.B44 1990

An excellent source for activities with detailed directions for preparation and teaching, a list of goals, and reproducible student worksheets. High-school level.

Biological science: interaction of experiments and ideas. BSCS. 4th ed. Englewood Cliffs, N.J., Prentice-Hall, c1983. 466 p.

Previous ed. cataloged under: Colorado. University. Biological Sciences Curriculum Study.

Textbook that emphasizes investigations and experiments of various aspects of biology without a review of the subject. Advanced high-school level.

Bleifeld, Maurice. Experimenting with a microscope. New York, F. Watts, c1988. 110 p. QH278.B57 1988

Provides a brief history of the microscope and discusses how the instrument works, the preparation of slides, and how the microscope is used to view specimens.

Challand, Helen J. Activities in the life sciences. Chicago, Childrens Press, c1982. 91 p. QH316.5.C45 1982

Presents a variety of experiments involving living organisms, including growing bacterial cultures, calculating the rate of seed germination, regenerating animals, and using urinalysis techniques. Activities range from 20-minute experiments to month-long projects.

Clay, Reginal Stanley, *and* Thomas H. Court. The history of the microscope. Boston, Mass., Longwood Press, 1978. 266 p. QH204.C4 1979

Reprint of the 1932 ed. published by C. Griffin, London.

The classic historical work, with many ideas to motivate students.

Crum, Lawrence E. Classroom activities and experiments for life science. West Nyack, N.Y., Parker Pub. Co., 1974. 224 p. QH316.5.C78

A wealth of activities and questions for the high-school student. Extensive bibiliography for references and sources of audiovisuals and supplies.

Griffin, Robert D. The biology coloring book. New York, Barnes & Noble Books, 1986. 233 p. QH308.2.G75 1986

Part of the Coloring Concepts Series. For use by advanced high-school and college students. Brief summaries of concepts accompany each diagram.

Lynch, Nancy Coggins. Basic biology science activities. Annapolis, Md., Alpha Publishing Co., 1990. 319 p. NOT IN LC

Research and Education Association. The biology problem solver. New York, REA, c1978. 1072 p. QH316.R46 1978

"This book is intended to aid students in biology ... by supplying detailed explanations of the solution methods which are usually not apparent." Fully indexed for locating specific problems.

Roa, Michael L. Biology teacher's instant vocabulary kit: with ready-to-use crosswords & wordsearches for grades 7-12. West Nyack, N.Y., Center for Applied Research in Education, c1991. 204 p. QH315.R59 1990

VanCleave, Janice Pratt. Biology for every kid: 101 easy experiments that really work. New York, Wiley, c1990. 224 p. QH316.5.V36 1990

"All 101 experiments are unique in their ability to introduce biology concepts in a manner that makes learning exciting." Junior-high level.

Specialized Works

Botany

Bonnet, Robert J., *and* G. Daniel Keen. Botany: 49 more science fair projects. Blue Ridge Summit, Pa., TAB Books, c1991. 144 p. QK52.6.B64 1990

A collection of experiments and projects in botany, focusing on germination, vegetative reproduction, hydroponics, photosynthesis, and plant stimulation, transport, and dispersal. Junior-high and high-school levels.

Gale, Frank C., *and* Clarice W. Gale. Experiences with plants for young children. Palo Alto, Calif., Pacific Books, c1975. 117 p. QK51.G34

Can be adapted for junior-high and high-school students.

Glimn-Lacy, Janice, *and* Peter B. Kaufman. Botany illustrated: introduction to plants, major groups, flowering plant families. New York, Van Nostrand Reinhold, c1984. 146 p. QK45.2.G57 1984

A coloring book of plants with accompanying definitions and brief text.

Imes, Rick. The practical botanist. New York, Simon & Schuster, c1990. 160 p. QK45.2.I44 1990

"An essential field guide to studying, classifying, and collecting plants." Excellent photographs and diagrams to accompany activities.

Sexual encounters of the floral kind [videorecording]. Bill Travers, writer and producer. Oxford Scientific Films, Ltd. Burlington, N.C., Carolina Biological Supply Company, 1986. 1 videocassette (50 minutes). NOT IN LC

Investigates the diversity of plant adaptations for pollination with an emphasis on unusual coevolved relationships with animal pollinators.

Ecology

Brown, Vinson. Investigating nature through outdoor projects: 36 strategies for turning the natural environment into your own laboratory. Harrisburg, Pa., Stackpole Books, c1983. 254 p. QH318.5.B7 1983

Ehrlich, Paul R. The machinery of nature. New York, Simon and Schuster, c1986. 320 p. QH541.E35 1986

An explanation of ecology: the living world around us and how it works.

Hands-on nature: information and activities for exploring the environment with children. Edited by Jenepher Lingelbach. Woodstock, Vt., Vermont Institute of Natural Science, c1986. 233 p. QH51.H26 1986

Simple activities designed for young children, but adaptable for older students. Workshops are divided into two sections: an informational essay and an activities section.

Harlow, Rosie, *and* Gareth Morgan. 175 amazing nature experiments. New York, Random House, 1992. 172 p. QH55.H3 1992

A collection of hands-on nature activities and crafts.

Hillman, Lawrence E. Nature puzzlers. Englewood, Colo., Teacher Ideas Press. 1989. 152 p. QH51.H54 1989

Activities focus on concept and skill building. Breaks down each activity into an initial question, background information, hypotheses, and additional activities. High-school level.

Johnson, Carolyn M. Discovering nature with young people. New York, Greenwood Press, 1987. 435 p. Z5818.N36J64 1987

An in-depth bibliography of books, catalogs, and audio-visual aids for the study and teaching of natural history. For students of all ages.

Klein, William J. Learning under the sun. Ames, Iowa State University Press, 1988. 386 p. QH53.K57 1988

A manual composed of discovery labs. A wide range of plants, animals and environmental issues provide topics for labs and worksheets.

Milord, Susan. The kids' nature book: 365 indoor/outdoor activities and experiences. Charlotte, Vt., Williamson Pub., c1989. 158 p. QH51.M57 1989

Suggests activities, poems, and stories to explore nature throughout the year. Junior-high level.

The Ocean: consider the connections. Washington, Center for Environmental Education, 1985. 98 p. NOT IN LC

An activity book that includes word games, art projects, experiments, narratives and definitions. Junior-high level.

Rainis, Kenneth G. Nature. New York, F. Watts, 1989. 142 p. QH55.R35 1989

A collection of nature projects and experiments exploring the kingdoms of life, from bacteria to plants and animals.

Sewall, Susan Breyer. Hooked on science: ready-to-use discovery activities for grades 4-8. West Nyack, N.Y., Center for Applied Research in Education, c1990. 202 p. QH51.S48 1990

"Over 60 exciting, easy-to-use activities to enrich and reinforce all areas of general science curriculum--especially nature/natural history."

Genetics

Asimov, Isaac. How did we find out about DNA? New York, Walker, 1985. 61 p. QP624.A85 1985

Describes the discovery of DNA. Easy reading.

----- How did we find out about genes? New York, Walker, 1983. 62 p. QH428.A77 1983

Traces the developing knowledge about heredity from the plant-breeding experiments of Gregor Mendel to the use of X-rays to produce mutations and the effect of natural mutations on the evolution of species. Easy reading.

Gonick, Larry, *and* Mark Wheelis. The cartoon guide to genetics. New York, Barnes & Noble, c1983. 214 p. QH436.G66 1983

"Combines meaningful and funny drawings with dialogue that is to the point and sparkles with humorous anecdotes. Highly recommended."

Hoagland, Mahlon B. Discovery, the search for DNA's secrets. Boston, Houghton Mifflin, 1981. 198 p. QH428.H63

A history of genetics, discoveries, and lives of scientists.

The Human genome project [videorecording]: what are we hoping to learn? National Library of Medicine, Reference Section. Bethesda, Md., The Library, 1988; Washington, Distributed by National Audiovisual Center. 1 videocassette (92 minutes) NOT IN LC

Takes a look at the wealth of information which one can directly determine or confidently infer from genetic mapping. Shows the need to understand the function of genes and gene products.

Race for the Double Helix. A&E-BBC production. Mick Jackson, producer. 1988. London, England. NOT IN LC

A modern TV production that profiles Watson and Crick and their contemporaries and work leading to the discovery of the structure of DNA.

Rosenfield, Israel, and others. DNA for beginners. New York, Writers & Readers, 1983. 222 p.

"Written in comic book form, thoroughly enjoyable and quite informative. Recommended for the serious high-school student."

Wingerson, Lois. Mapping our genes: the Genome Project and the future of medicine. New York, Dutton, c1990. 338 p. RB155.6.W56 1990

Includes bibliographical references: p. 309-321.

Written for the general public, with a detailed bibliography.

Human Body

ABC's of the human body: a family answer book. Pleasantville, N.Y., Reader's Digest Association, c1987. 336 p. QP38.A15 1987

Filled with interesting facts, explanations, diagrams and photos; a valuable addition to any classroom.

Allison, Linda, *and* Tom Ferguson. The stethoscope book. Reading, Mass., Addison-Wesley, c1991. 64 p. RC76.3.A35 1991 [Spec Format]

Explains how a stethoscope magnifies the sounds inside us and our pets. Includes a plastic stethoscope.

Foodworks: over 100 science activities and fascinating facts that explore the magic of food. From the Ontario Science Centre. Reading, Mass., Addison-Wesley Pub. Co., 1987. 90 p. TX355.F66 1987

Discusses the role of food, what it does and how it acts inside the body, through explanatory text and science activities.

The Human body on file. By the Diagram Group. New York, Facts on File, c1983. 1 v. (loose-leaf) QM25.H85 1983

Surveys the systems of the human body, through reproducible diagrams and drawings.

Rose, Kenneth Jon. The body in time. New York, Wiley, c1988. 237 p. Bibliography: p. 217-225. QP84.6.R67 1988

The length of time required for various bodily functions, with real-life accounts.

Sportworks: more than fifty fun games and activities that explore the science of sports. From the Ontario Science Centre. Reading, Mass., Addison-Wesley, 1989. 96 p. GV1203.S695 1989

A variety of games and activities to explore physical action in sports.

Paleontology/Evolution

Asimov, Isaac. How did we find out about the beginning of life? New York, Walker, 1982. 54 p. QH325.A74 1982

Describes scientists' attempts to find out how life began, including such topics as spontaneous generation and evolution. Easy reading.

Eldredge, Niles, *and* Gregory Eldredge. The fossil factory: a kid's guide to digging up dinosaurs, exploring evolution, and finding fossils. Reading, Mass., Addison-Wesley, c1989. 111 p. QE714.5.E55 1989

Describes fossils, how to collect them, and what they reveal about dinosaurs and other creatures that inhabited the earth millions of years ago.

Gould, Stephen Jay. Wonderful life. New York, W. W. Norton, c1989. 347 p. QE770.G67 1989

What a specific geological formation teaches us about evolution and life.

Stones & Bones Program: a laboratory approach to the study of biology, modern science and anthropology. Los Angeles, Los Angeles Unified School District, 1980. 1 v.

An activity-based program that includes replicas of bones and fossils, worksheets, and teacher guides. Excellent for junior-high through high-school students.

Kit available from Los Angeles Unified School District, Mr. Milton S. Anisman, Physical Anthropology Center, 6625 Balboa Blvd., Van Nuys, Calif. 91406.

Zoology

Anderson, Margaret Jean. Exploring the insect world. New York, McGraw-Hill, 1974. 160 p. QL467.2.A52

No longer in print, but a good guide to the study of insects, with activities.

Asimov, Isaac. How did we find out about life in the deep sea? New York, Walker Pub. Co., 1981, c1982. 61 p. NOT IN LC

The discovery of deep-ocean life and an explanation of oceanography. Easy reading.

The Birds around us. Edited by Alice E. Mace. San Francisco, Calif., Ortho Books, c1986. 352 p. QL676.8627 1986

With chapters by various contributors on how birds have evolved, avian behavior and ecology, flight, migration and navigation, and attracting and photographing birds, followed by profiles and color photos of 125 North American birds.

Elson, Lawrence M. Zoology coloring book. New York, Harper Collins, 1982. 240 p.

For high-school students. NOT IN LC

Emmens, C. W. Marine aquaria and miniature reefs: the fishes, the invertebrates, the techniques. Neptune City, N.J., T.F.H. Publications, c1990. 317 p. SF457.1.E54 1990

Illustrated guide to choosing equipment, selecting compatible tank-mates, detecting and treating diseases, and other topics for managing a salt-water aquarium.

Nirsen, Thomas M. Marine biology coloring book. New York, Harper Collins, 1982. 224 p. NOT IN LC

For high-school students.

Palmer, Joan. Reptiles and amphibians. Poole, Dorset, Blandford Press; New York, Distributed by Sterling Pub. Co., 1983. 94 p. SF459.R4P35 1983

How to observe, obtain, and care for them, and how to maintain a terranium.

Selsam, Millicent Ellis. Questions and answers about ants. New York, Four Winds Press, 1967. 75 p. QL568.F7S44

Answers such questions as: What do ants eat? How do ants find their way? Can ants learn? Explains the behavior of ants and tells how to maintain an ant colony.

Staple, Michele, *and* Linda Gamlin. The Random House book of 1001 questions and answers about animals. New York, Random House, 1990. 159 p. QL49.S675 1990

Explores curiosities and wonders of the animal world, including the habitats and behavior of such creatures as the octopus, scorpion, newt, and bat.

Stokes, Donald W. A guide to observing insect lives. Boston, Little, Brown, c1983. 371 p. QL496.S86 1983

Bibliography: p. 367-371.

Divided into four seasonal sections, which include introductions to watching insects and life-histories of insects.

Winchester, A. M., *and* H. E. Jaques. How to know the living things. 2nd ed. Dubuque, Iowa, W. C. Brown Co., c1981. QH83.W55 1981

Rev. ed. of *Living things, how to know them*, by H. E. Jaques. 1947.

Discusses classification, collection, and study of the kingdoms.

Science Activities

Churchill, E. Richard. Paper science toys. New York, Sterling Pub. Co., c1990. 128 p. TT174.5.P3C478 1990

Introduces scientific principles through toys made of paper, cardboard, and household items.

Haglund, Elaine. On this day: a collection of everyday learning events and activities for the media center, library, and classroom. Littleton, Colo., Libraries Unlimited, 1983. 470 p. LB3525.H33 1983

A source for motivating students to learn how to learn. "Through assorted, open-ended suggestions, the book ... generates much creativity and divergent thinking among the students who participate in the activities." Integrates a variety of subject areas within the curriculum.

Hassard, Jack. Science experiences: cooperative learning and the teaching of science. Menlo Park, Calif., Addison-Wesley Pub. Co., c1990. 315 p. LB1585.3.H38 1990

Part One is based on cooperative learning. Part Two consists of teaching units designed for students in grades four through nine. Topics include life science, health, astronomy, oceanography, geology, the future, energy, and environmental science.

More science experiments on file: experiments, demonstrations, and projects for school and home. New York, Facts on File, c1991. 1 v. (unpaged) Q182.3.M67 1990

Science experiments on file: experiments, demonstrations, and projects for school and home. New York, N.Y., Facts on File, c1989. 1 v. (various pagings) Q182.3.S33 1989

Science for the fun of it: a guide to informal science education. Edited by Marvin Druger. Washington, National Science Teachers Association, c1988. 141 p. Q181.A1S36 1988

"Consists of a collection of articles ... [that] highlight ... many opportunities for learning science .... Such resources include zoos, museums, television, magazines and books, and a variety of creative programs and projects." Applicable to all ages.

Skolnick, Joan, Carol Langbort, *and* Lucille Day. How to encourage girls in math & science: strategies for parents and educators. Englewood Cliffs, N.J., Prentice-Hall, c1982. 192 p. Q183.3.A1S56 1982

"A complete book of issues and answers. Activities, projects, ideas, and techniques for teaching math and science to girls."

UNESCO. New UNESCO source book for science teaching. Paris, UNESCO, 1973. 270 p. Q181.U475 1973

"... intended to serve as a source of ideas for the devising of simple scientific activities, investigations and experiments ...." Includes physical, biological, and earth sciences. Teaching strategies are contained in a companion volume, the *UNESCO Handbook for Science Teachers*.

Science Events, Fairs and Projects

Bombaugh, Ruth. Science fair success. Hillside, N.J., Enslow Publishers, c1990. 96 p. Q182.3.B66 1990

A guide for choosing, designing, and completing an investigative science fair project, with an appendix listing prize-winning projects by junior-high students.

Bonnet, Robert L., *and* G. Daniel Keen. Environmental science: 49 science fair projects. Blue Ridge Summit, Pa., Tab Books, c1990. 124 p. QH541.24.B66 1990

Suggests forty-nine projects in environmental science, suitable for the classroom or a science fair.

Carter, Constance. Evironmental science projects. Washington, U.S. Library of Congress, Science and Technology Division, 1990. 20 p.

Part of an "informal series of literature guides designed to help a reader begin to locate published materials on a subject." Available, free of charge, from the division.

Howland, Joyce. Science fair projects. Washington, U.S. Library of Congress, Science and Technology Division, 1991. 16 p.

Part of an "informal series of literature guides designed to help a reader begin to locate published materials on a subject." Available, free of charge, from the division.

Loiry, William S. Winning with science: the 1989-90 guide to science research and programs for students. Washington, Loiry Publications, c1990. 319 p. Q180.55.M4L64 1990

A guide for junior and senior high-school students, for doing science research, for engaging in science competition, and for becoming involved in science programs. Lists programs (grants, trips, employment, etc.) available in both the United States and abroad.

Ocko, Stephanie. Environmental vacations: volunteer projects to save the planet. Sante Fe, N.M., J. Muir Publications; New York, Distributed by W. W. Norton, 1990 (1991 printing). 235 p. Q182.3.024 1990

"Provides mainly experiential accounts about helping scientists with field research or assisting in development projects." Includes addresses and background information on agencies.

Science fairs and projects, 7-12: a collection of articles reprinted from *Science and Children*, *Science Scope*, and *The Science Teacher*. Washington, National Science Teachers Association, c1988. 70 p. Q182.3.S343 1988

Teaching Aids and Sourcebooks

Behringer, Marjorie P. Techniques and materials in biology: care and use of living animals, plants and microorganisms. 2nd ed. Malabar, Fla., R. E. Krieger Pub., 1989. 1 v. 636 p. QH324.B39 1989

Gives concise and accessible information about standard techniques and materials for the biology laboratory.

Biological Sciences Curriculum Study. Biology teachers' handbook. Edited by William V. Mayer. 3rd ed. New York, Wiley, c1978. 585 p. QH315.B586 1978

Covers teaching strategies, "invitations to inquiry," and issues in contemporary biology.

Collette, Alfred T., *and* Eugene L. Chiappetta. Science instruction in the middle and secondary schools. 2nd ed. Columbus, Merrill Pub. Co., c1989. 471 p. Q183.3.A1C637 1989

"... meant to be a guide for both pre-service and in-service middle school and secondary school science teachers. It is a comprehensive methods textbook that provides essential information, practical applications, and resource material."

Davis, Elisabeth B. Using the biological literature: a practical guide. New York, M. Dekker, c1981. 286 p. (Books in library and information science, v. 35) QH303.D39 1981

"This comprehensive, annotated guide is an invaluable reference and handbook for [serious] students and teachers of biology as well as literature." Though over 10 years old, periodicals, dictionaries, and abstracts are still relevant.

Hanks, Sharon La Bonde. Ways to teach biology: the whys and hows of changing to a process approach. New York, P. Lang, c1989. 188 p. (American university studies. Series XIV. Education, v. 23) QH315.H274 1989

One teacher's approach to teaching biology. Though geared for the college biology student, methods and ideas can be applied for high-school students. Creative, resourceful, and interesting.

Kennedy, DayAnn M., Stella S. Spangler, *and* Mary Ann Vanderwerf. Science & technology in fact and fiction: a guide to young adult books. New York, Bowker, c1990. 363 p. Z7401.K46 1990b

Life sciences on file. By the Diagram Group. New York, Facts on File, c1986. 1 v. (various pagings) QH318.L45 1986

Surveys various aspects of biology, including reproduction, genetics, human physiology, and ecology, through reproducible diagrams and drawings.

McKenna, Harold J., *and* Marge Hand. A guidebook for teaching biology. Boston, Allyn and Bacon, c1985. 267 p. QH315.M45 1985

Includes "Teaching ideas, learning objectives, student activities, reproducible exercises and more for teaching traditional as well as newer topics." Excellent resource bibliographies. An indispensible work.

Morholt, Evelyn, *and* Paul F. Brandwein. A sourcebook for the biological sciences. 3rd ed. San Diego, Harcourt Brace Jovanovich, c1986. 813 p. QH315.M745 1986

Suggests activities and experiments that apply to the accompanying brief but informative text. High-school level.

Trowbridge, Leslie W., *and* Rodger W. Bybee. Becoming a secondary school science teacher. 4th ed. Columbus, Merrill Pub. Co., c1986. 421 p. Q183.3.A1T76 1986

A good source for the new high-school biology teacher. An in-depth look into the study and teaching of science.

Periodicals

The American biology teacher. v. 1+ Oct. 1938+ Reston, Va., National Association of Biology Teachers. QH1.A275

"A nationally recognized journal that features teaching ideas and concepts, reviews, and an overview of biology today."

Buzzworm. v. 1+ Summer 1988+ Boulder, Colo., Buzzworm, Inc. bimonthly. QH75.A1B89

Features articles on nature and environmental concerns.

Computers in life science education. v. 1+ Apr. 1984+ New York, Elsevier Science Pub. Co. monthly. QH315.C7183

Contents include articles on computer applications, reports on faculty/student experiences, and software/hardware reviews.

Journal of the history of biology. v. 1+ Spring 1968+ Dordrecht, Boston, D. Reidel. three issues per year. QH305.J64

"Devoted to the history of the biological sciences, with additional interest and concern in philosophical and social issues confronting biology."

Natural history. v. 1+ Apr. 1900+ New York, American Museum of Natural History. monthly. QH1.N13

General articles on natural history.

Science activities. v. 1+ June 1969+ Washington, Heldref Publications. quarterly. Q181.A1S29

"A teacher's classroom guide" to various scientific topics indexed in *Current Index to Journals in Education*. Middle-school and high-school levels.

Science books & films. v. 1+ April 1965+ Washington, American Association for the Advancement of Science. 9 no. a year. Z7403.S33

"Reviews trade books, textbooks, 16mm films, filmstrips, and videos in all areas of science and mathematics that are appropriate for elementary, junior and senior high-school students, general audiences, and teachers." Several feature articles appear in each issue.

The Science teacher. 1936+ Washington, National Science Teachers Association. monthly Sept.-May. Q181.S38

Informative and up-to-date articles covering all areas of science. Features include "science briefs," "idea bank," and book reviews. High-school level.

Multimedia Resources

Annual Reference Catalog for Optics, Science & Education
Annual Science Fair Issue
Edmund Scientific Co.
101 E. Gloucester Pike
Barrington, NJ 08007-1380
(609) 573-6260

Items include microscopes, prepared slides, and science discovery kits (ant farms, nature labs).

Biology/Science Materials Catalog
Carolina Biological Supply Co.
2700 York Road
Burlington, NC 27215
(800) 334-5551

Excellent source for models, games, charts, review sheets, and living and preserved specimens. Also publishes *Carolina Tips*, a brief "newsletter" containing laboratory activities. Free to those who telephone to be placed on mailing list.

National Geographic Educational Services Catalog
National Geographic Society
Educational Services
Department 91
Washington, DC 20036
(800) 368-2728

Resources such as videos, films, filmstrips, books, and teacher's guides cover subjects on biology, nature study, and science.

PBS Video Resource Catalog
PBS Video
1320 Braddock Place
Alexandria, VA 22314-1698
(800) 424-7963

Lists educational videos on the subjects of biology, the environment, and health science.

Teacher's Laboratory Catalog
Teacher's Laboratory, Inc.
P.O. Box 6480
Brattleboro, VT 05302-6480
(802) 254-3457

Lists books and activity kits for the junior-high student.

Ward's Biology
Ward's Natural Science Establishment, Inc.
P.O. Box 92912
Rochester, NY 14692-9012
(800) 962-2660

A necessary resource for biology teachers. A complete source for instructional media and equipment for the classroom and the laboratory.

Additional Sources for Information and Materials

Association of Science-Technology Centers (ASTC)
Attn: Jenny Heim
1025 Vermont Avenue, NW
Suite 500
Washington, DC 20005-3405
Telephone: (202) 371-1171

The ASTC acts as a clearinghouse of science museum information, circulates traveling exhibits, organizes professional workshops and conferences, produces publications, and engages in other national projects to advance the public understanding of science and technology.

Education Materials from the EPA
Public Information Center
Environmental Protection Agency
401 M Street, SW PM211 B
Washington, DC 20460
Telephone: (202) 475-7751

Environmental Education Materials For Teachers and Young People is a free annotated list of educational materials on environmental issues. Entries include diverse materials ranging from workbooks and lesson plans to newsletters, films, and computer software intended for young people.

International Clearinghouse on Science and Mathematics Curricula Developments
Science Teaching Center
University of Maryland
H. J. Benjamin Building
College Park, MD 20742-1151
Telephone: 454-4028

New curricular developments in science; construction and evaluation of inexpensive science teaching equipment. Publications include books, reports, bibliographies, handbooks.

National Association of Biology Teachers, Inc.
11250 Roger Bacon Drive, Suite 19
Reston, VA 22090
Telephone: (703) 471-1134

A professional association with interests in biological science education, including aspects of classroom and laboratory instruction, facilities, and professional education of biology teachers at high-school and college levels.

National Science Foundation
Public Affairs and Publications Group
Office of Legislative and Public Affairs
1800 G Street, NW
Washington, DC 20550
Telephone: (202) 357-9498

Publications include *Guide to Programs*, *NSF Bulletin*, *List of NSF Publications*. Provides referrals to other sources of information.

National Science Teachers Association (NSTA)
1742 Connecticut Avenue, NW
Washington, DC 20009
Telephone: (202) 328-5800

A professional organization for science teachers in the elementary through the college level. Emphasizes curricula and materials, student development programs and youth activities. The association also maintains an employment registry for science teachers.

Ohio State University
ERIC Clearinghouse for Science, Mathematics, and Environmental Education
Ohio State University
1200 Chambers Road
Columbus, OH 43212
Telephone: (614) 292-6717

The clearinghouse collects, processes, and disseminates research reports and other documents and information relating to the teaching and learning of science, mathematics, and the environment. Publications: bibliographies, instructional materials, indexes. Publications may be purchased from the SMEAC Information Reference Center, 1200 Chambers Road, 3rd Floor, Columbus, Ohio 43212.

Ontario Science Centre
770 Don Mills Road
Don Mills, Ontario
CANADA M3C 1T3
Telephone: (416) 429-4100

The centre's basic goal is to promote widely among the general public an understanding of science and technology, past, present, and future. Areas of interest are computers, earth sciences, chemistry, physics, biology, communications, energy, engineering, astronomy, space sciences, the environment, and mathematics. Topical guides are available to aid teachers.